An Exploration for Monitoring Methods for Smokes and Obscurants

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Dugway Proving Ground

LCTA
SURVEY
MARKER

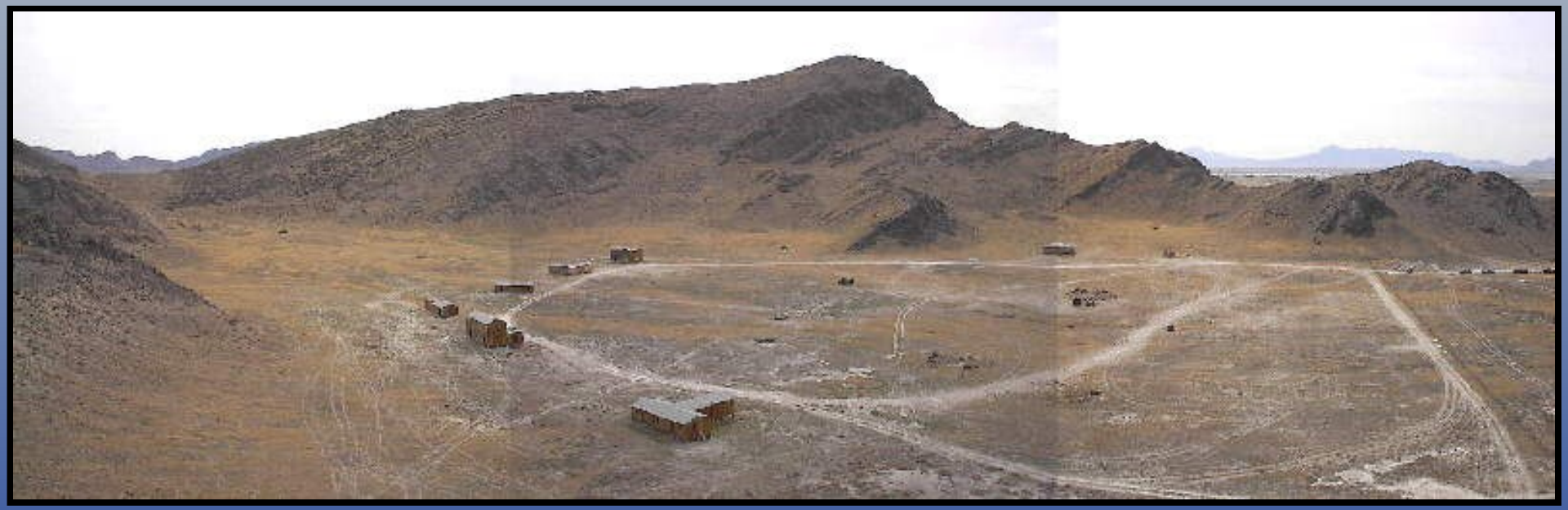
Project Objective

- determine appropriate sampling methods
- try sampling methods during a smoke obscurant exercise
- evaluate sampling methods for practicality and potential to detect ecological change

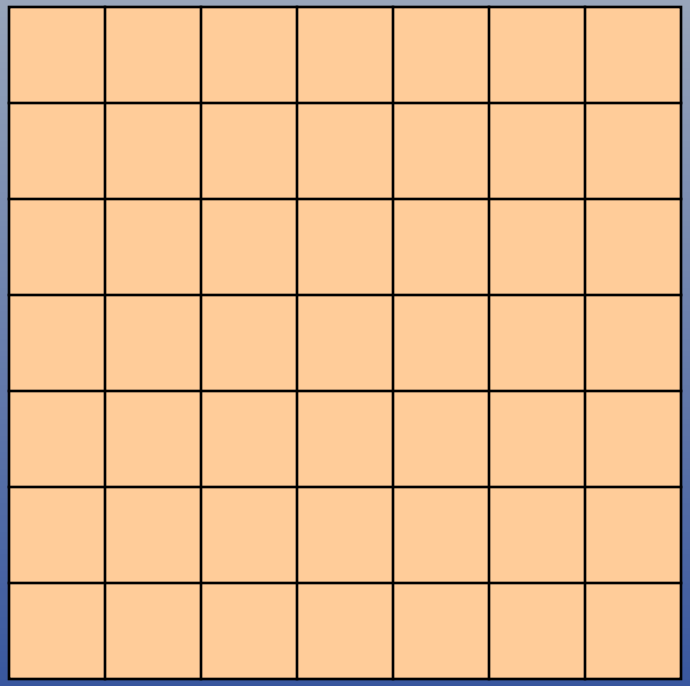
What to Sample?

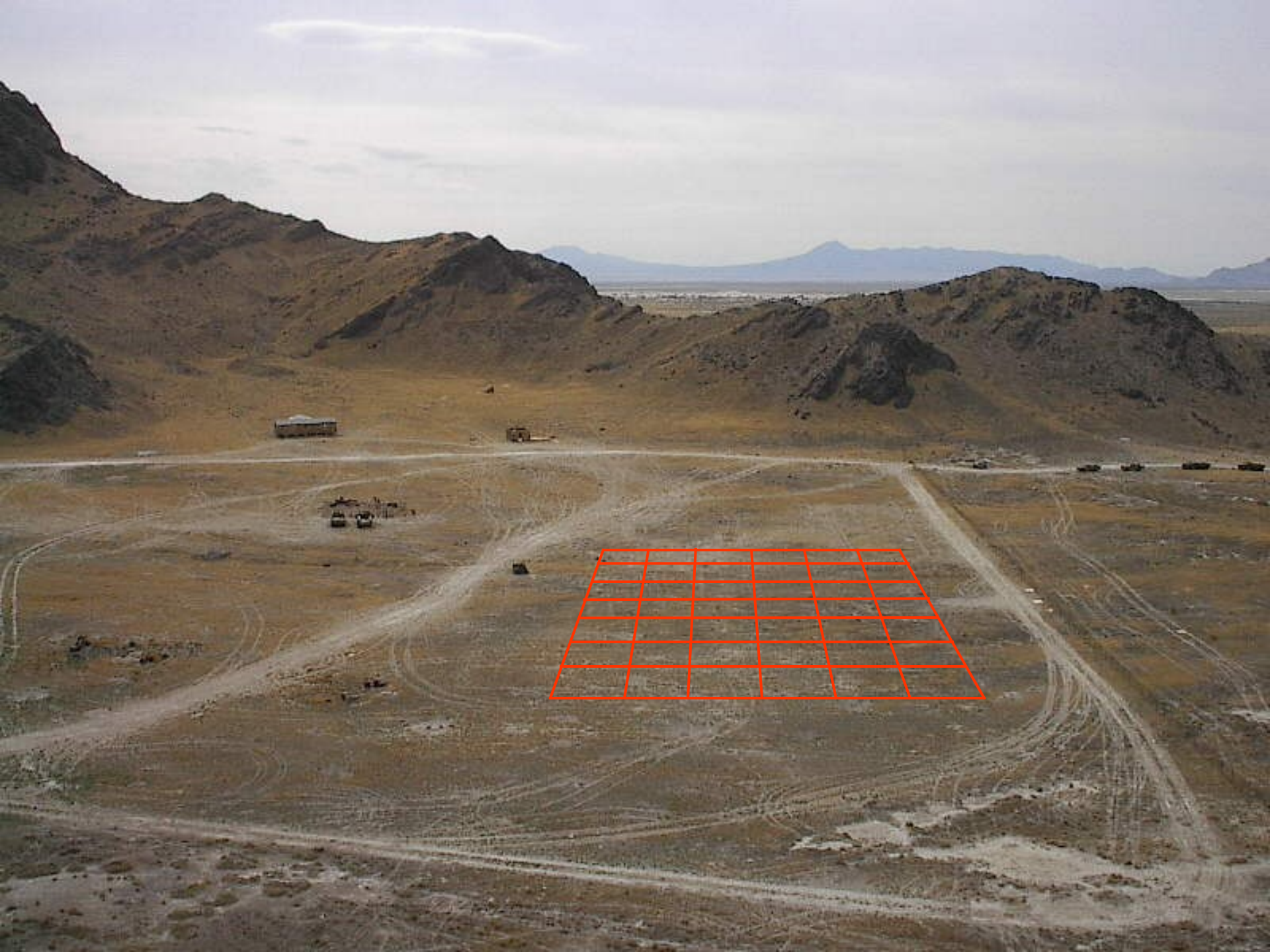
- Flora
  - vascular plant
  - non vascular plant
  - crypto-biotic soil crust
- Fauna
  - birds
  - small mammals
  - invertebrates (bugs)

Site Photo

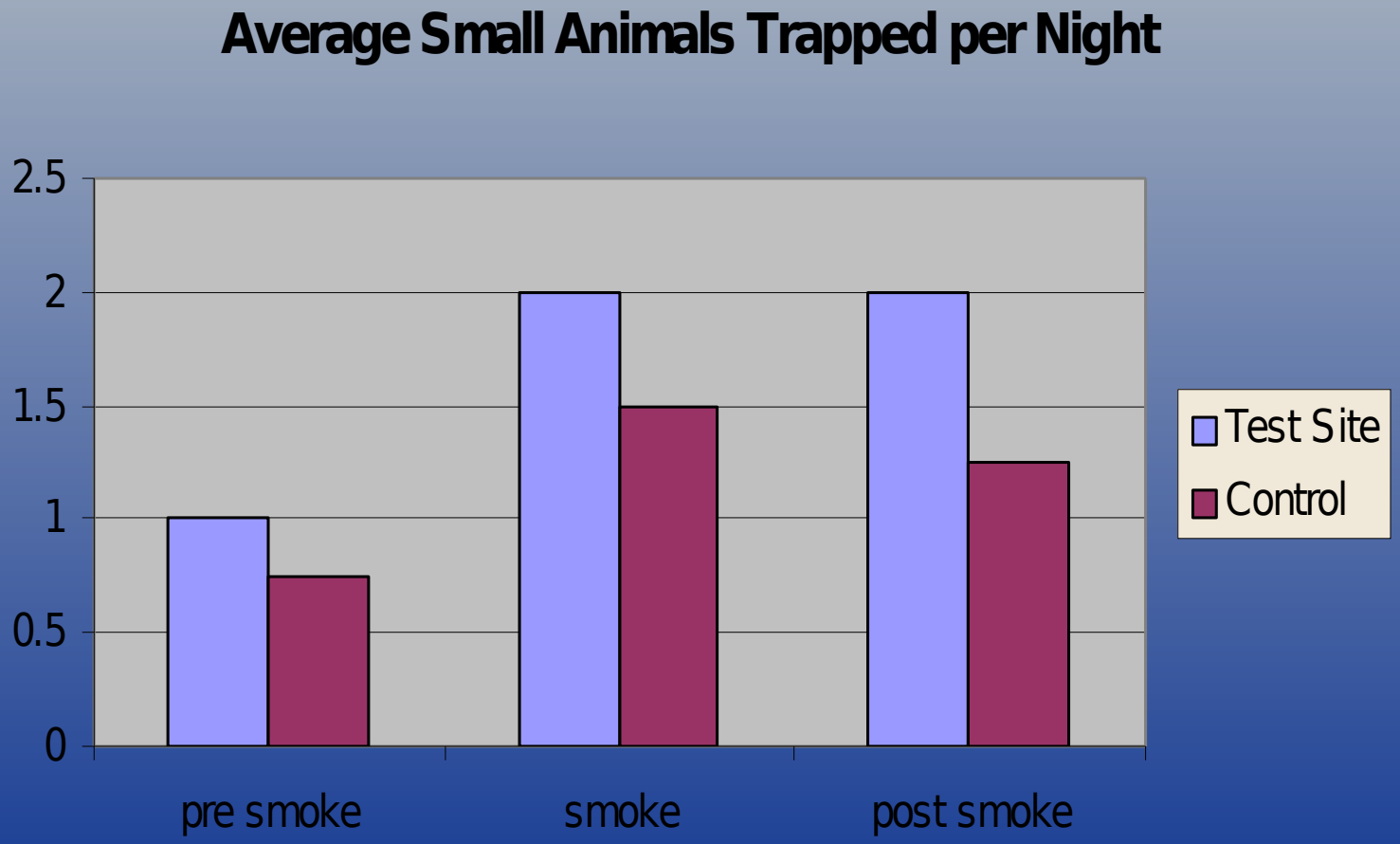


Small Mammal Trap Grid
8x8

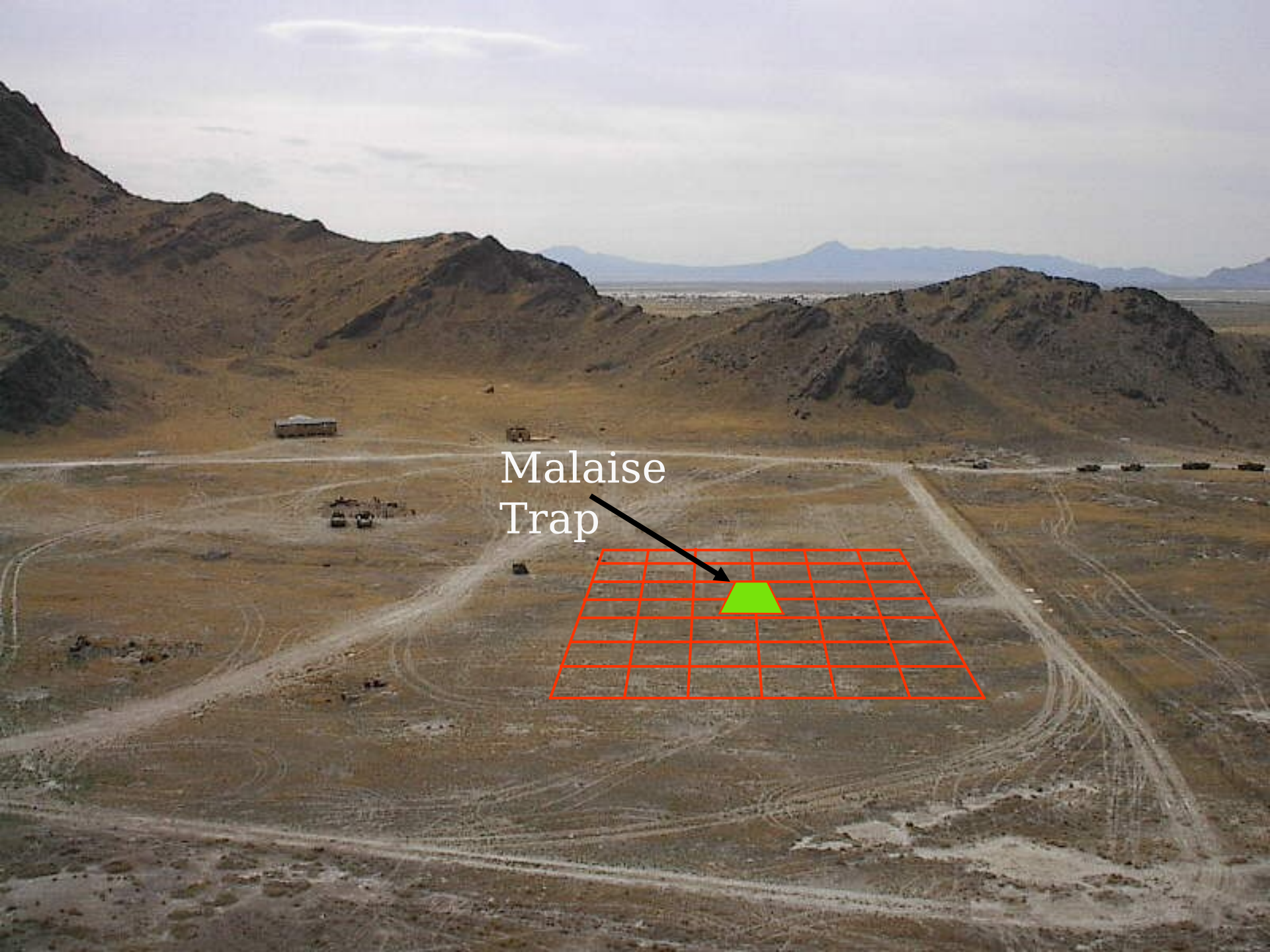




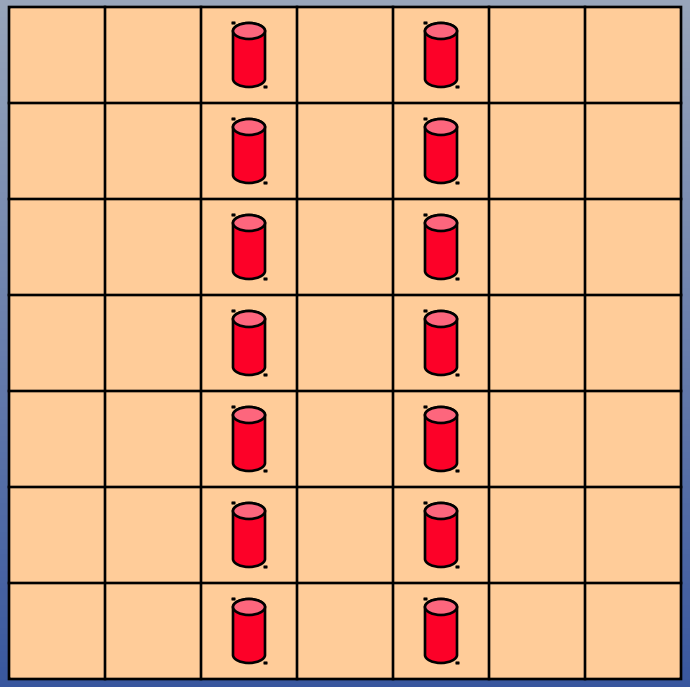
Results Small Mammals



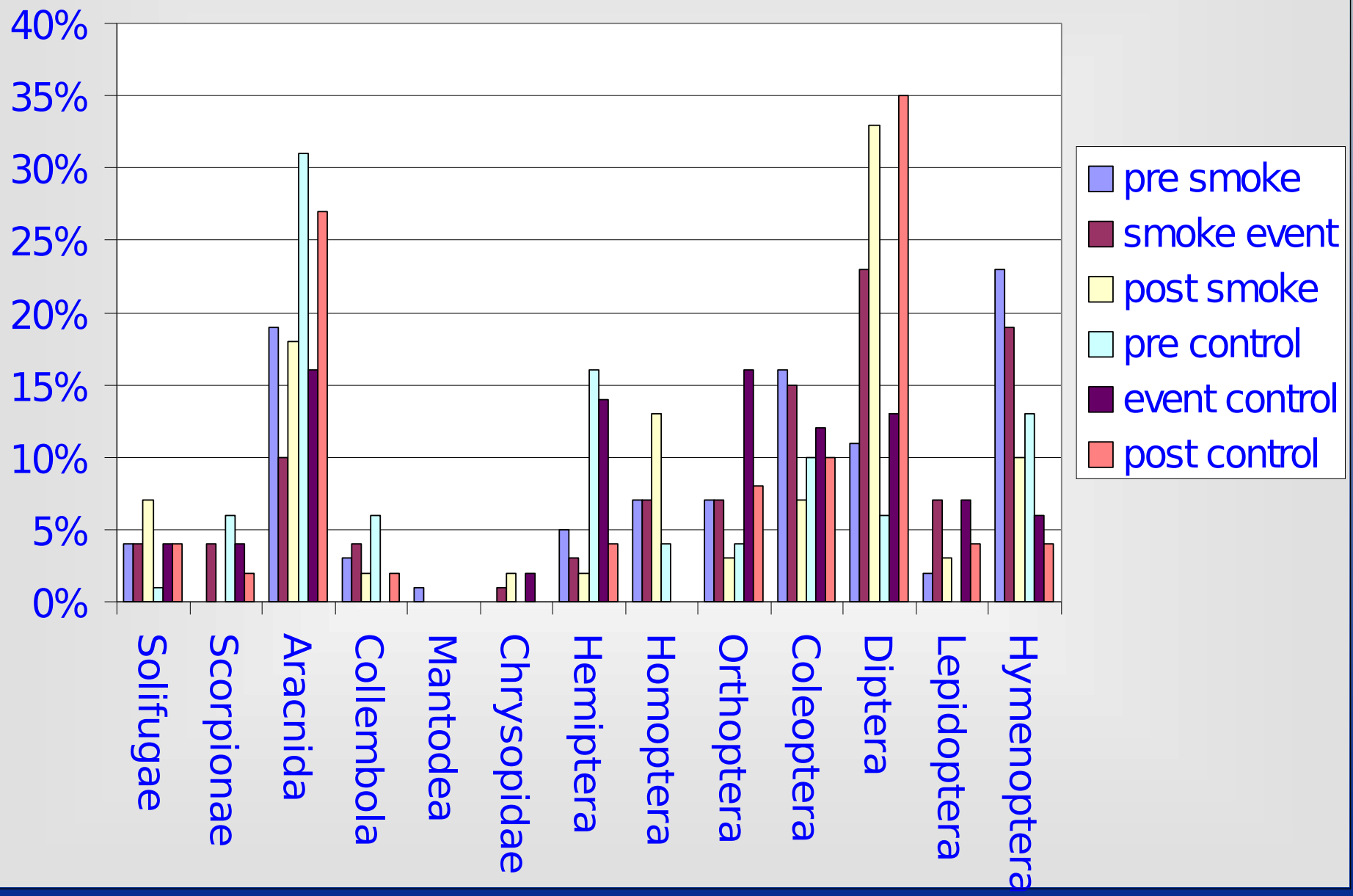
Malaise Trap


Malaise
Trap

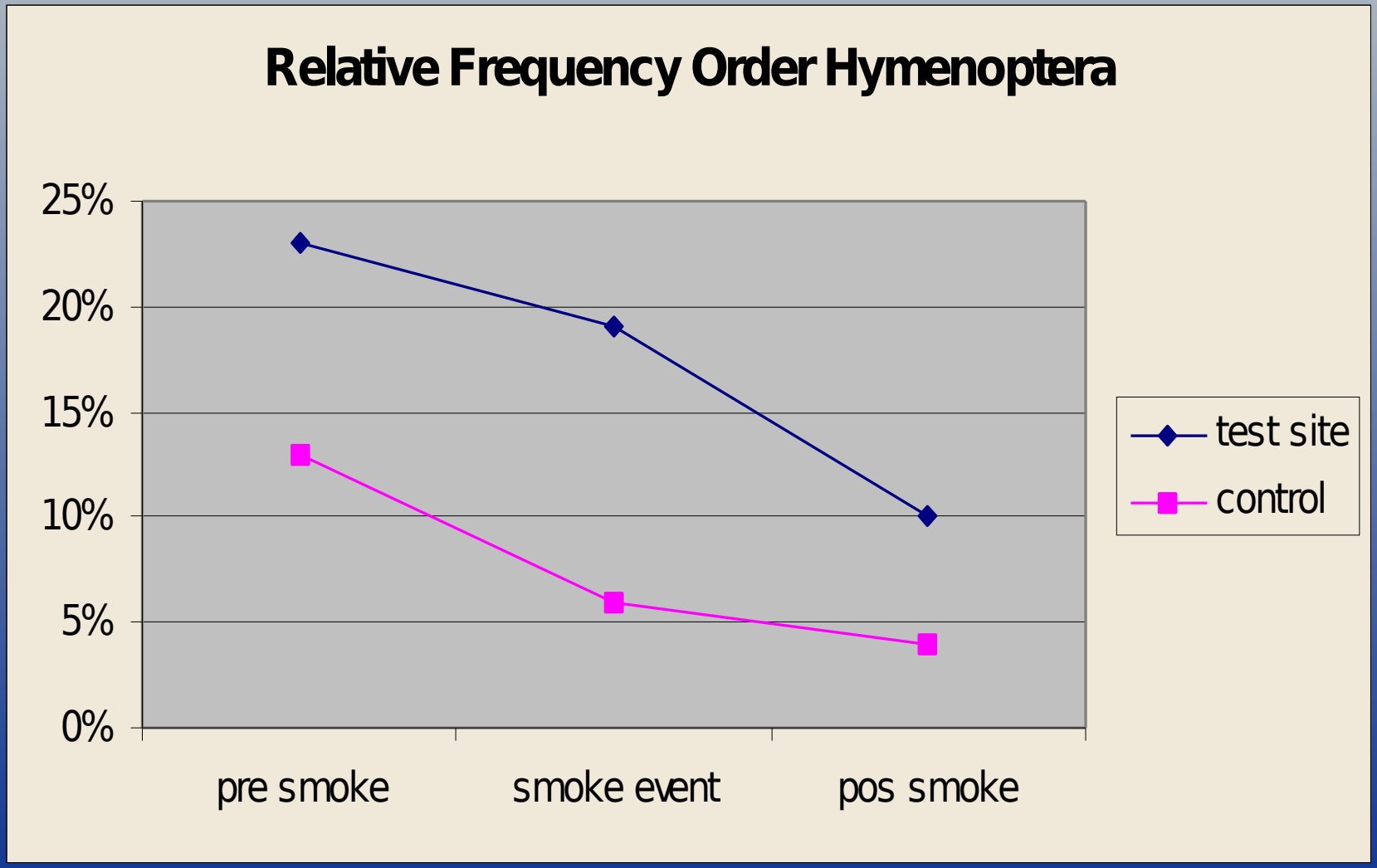
Pit Fall Traps for Invertebrates



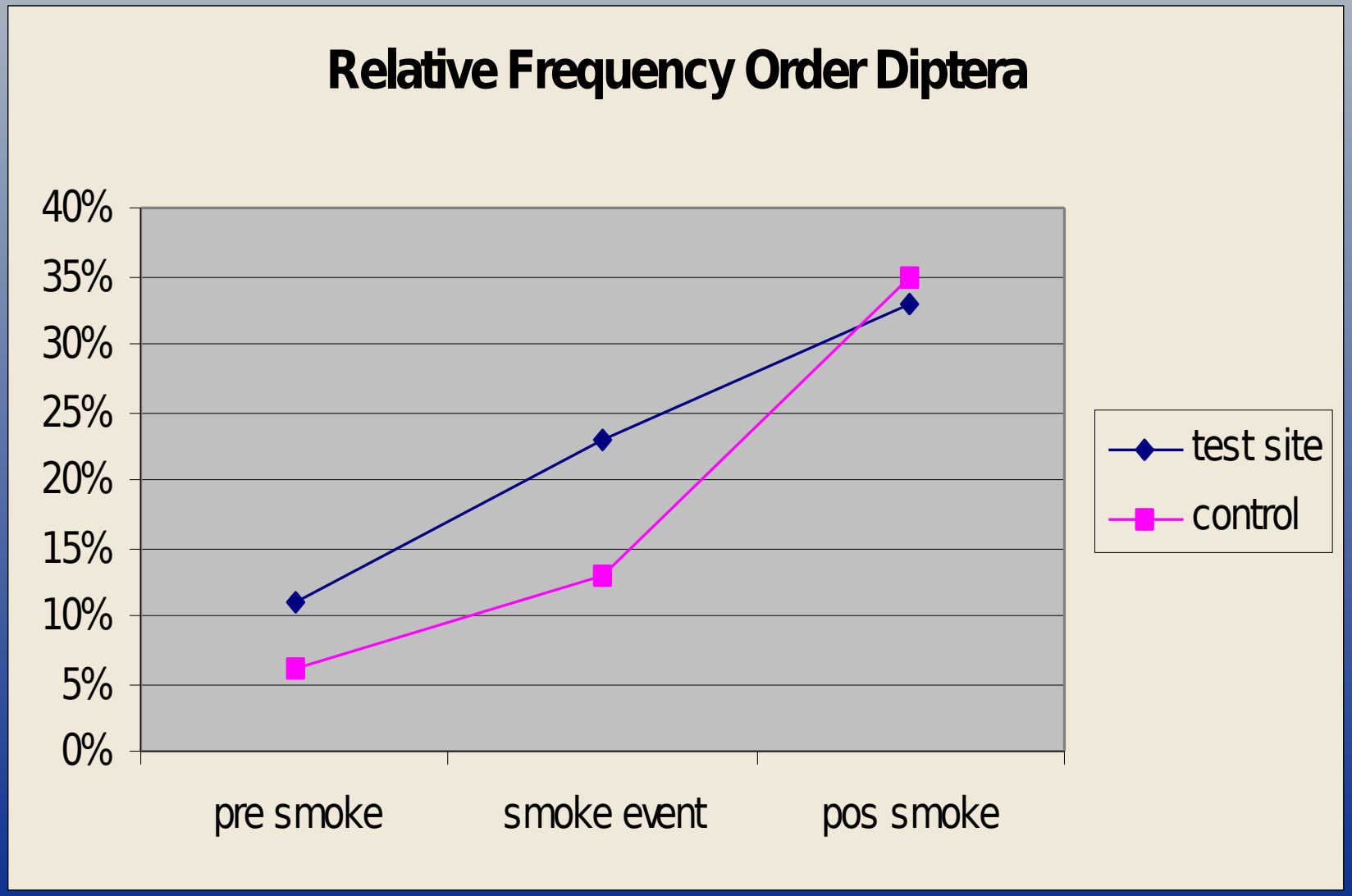
Temporal Relative Frequency of Arthropod Guilds



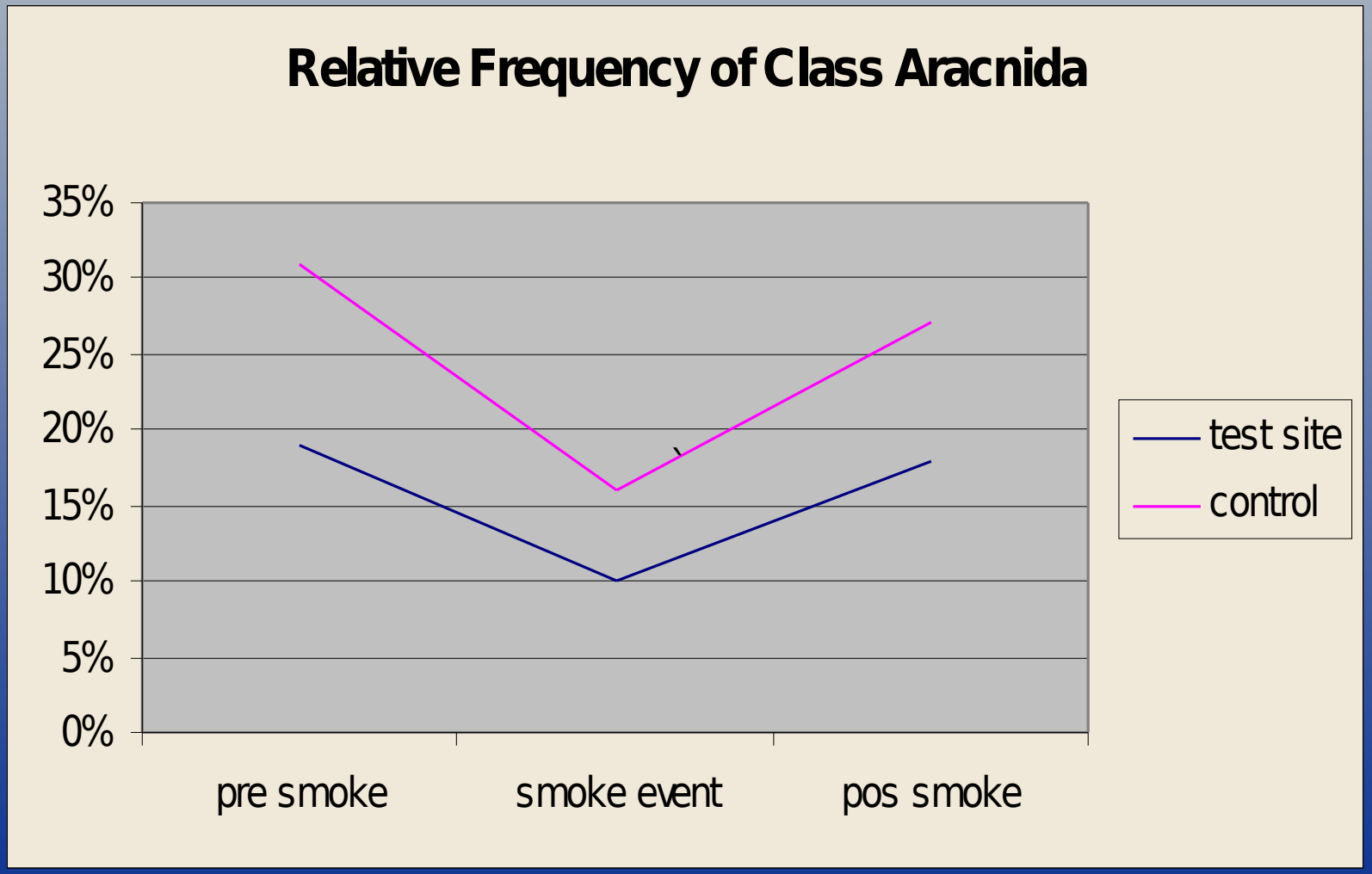
Decreasing Population Curve



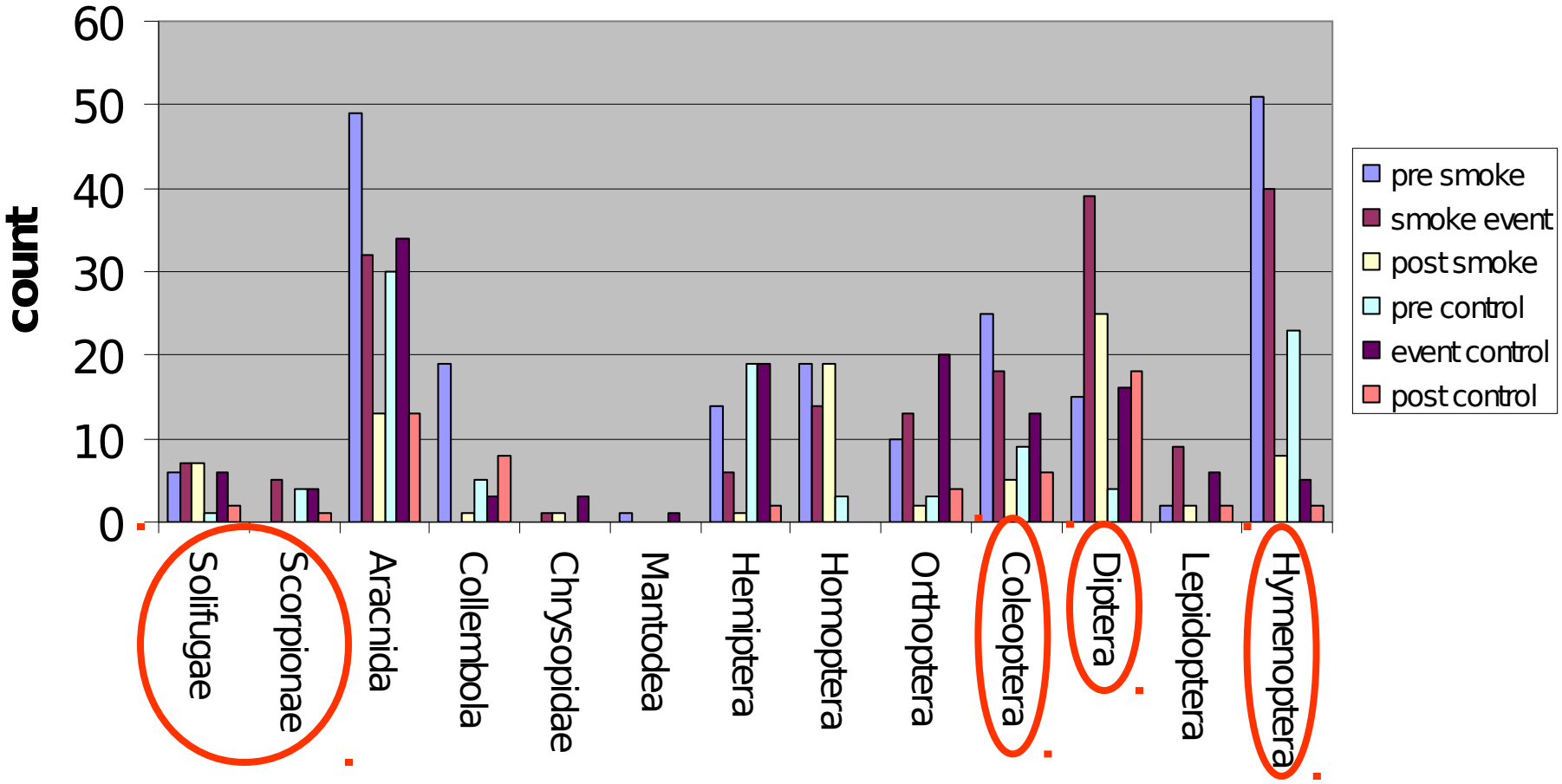
Increasing Population Curve



Fluctuating Population Curve



Effect of Smoke Obscurrant on Arthopod Abundance



Arachnida

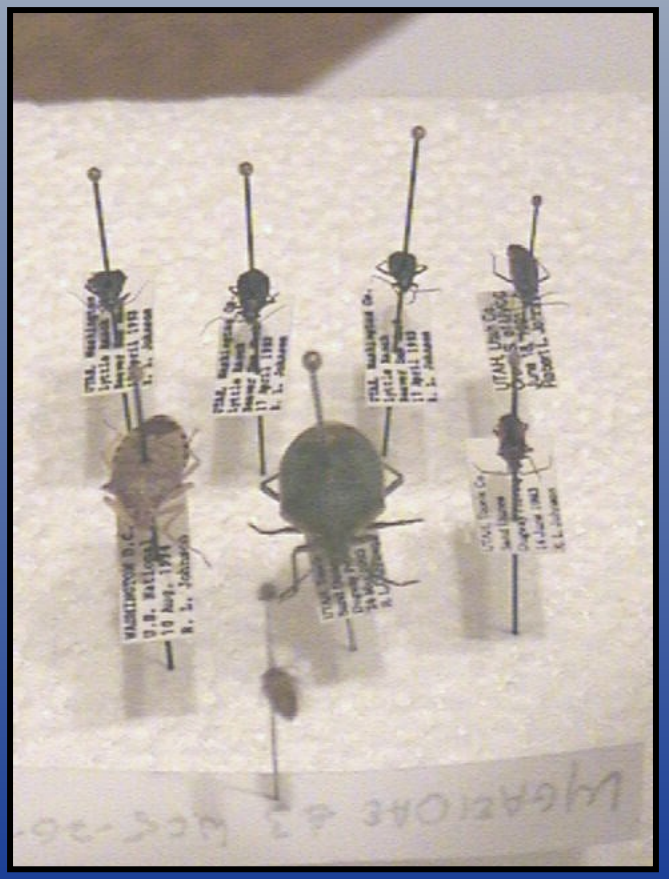
Hymenoptera

Diptera

Coleoptera

Orthoptera

Hemiptera



Scorpions and Wind Scorpions

Summary

- Small mammals
  - population too small for adequate sample size
- Invertebrates
  - adequate samples sizes
  - pit fall traps proved the best method for sample diversity and potential sample replication
  - Application of test statistic can detect trend differences between test site and control